# REHABILITATION EQUIPMENT

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

The present invention relates to a rehabilitation equipment, and more particularly to a rehabilitation equipment that is folded when not in use so as to save the storage space.

### 2. Description of the Related Art

A conventional rehabilitation equipment is used to exercise the muscle, joint and skeleton of the user's wounded part, such as the wounded legs or the like, thereby achieving the rehabilitation effect. However, the conventional rehabilitation equipment has a fixed structure and cannot be folded when not in use, thereby occupying the storage space. In addition, the user needs to use the conventional rehabilitation equipment by aid of other person, thereby causing inconvenience to the user.

## SUMMARY OF THE INVENTION

The present invention is to mitigate and/or obviate the disadvantage of the conventional rehabilitation equipment.

The primary objective of the present invention is to provide a foldable rehabilitation equipment.

Another objective of the present invention is to provide a rehabilitation equipment, wherein the two elastic bars, the bracket and the push bar are detached from the base, and the two support plates of the base are pivoted to about the two hinges to abut each other, so that the base is folded when not in use so as to save the storage space.

A further objective of the present invention is to provide a rehabilitation equipment that is assembled and disassembled easily and conveniently, thereby facilitating the user using the rehabilitation equipment.

In accordance with the present invention, there is provided a rehabilitation equipment, comprising:

a base;

two upright elastic bars each mounted on the base;

a bracket mounted on the two elastic bars and including a substantially U-shaped support portion mounted on the two elastic bars; and

a push bar mounted on a mediate portion of the bracket.

Further benefits and advantages of the present invention will become apparent after a careful reading of the detailed description with appropriate reference to the accompanying drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective assembly view of a rehabilitation equipment in accordance with the preferred embodiment of the present invention;

Fig. 2 is an exploded perspective view of the rehabilitation equipment in accordance with the preferred embodiment of the present invention;

Fig. 3 is a perspective view of a positioning member of the rehabilitation equipment in accordance with the preferred embodiment of the present invention;

Fig. 4 is a partially cut-away plan cross-sectional view of the rehabilitation equipment taken along line 4-4 as shown in Fig. 2;

Fig. 5 is a schematic side plan cross-sectional operational view of the rehabilitation equipment as shown in Fig. 1;

Fig. 6 is a schematic operational view of the rehabilitation equipment as shown in Fig. 5; and

Fig. 7 is a perspective view of a push bar of the rehabilitation equipment in accordance with another embodiment of the present invention.

## DETAILED DESCRIPTION OF THE INVENTION

Referring to the drawings and initially to Figs. 1-4, a rehabilitation equipment in accordance with the preferred embodiment of the present invention comprises a base 10, two elastic bars 20, a bracket 30, a push bar 40, two opposite first positioning devices 50, and two opposite second positioning devices 60.

The base 10 includes two support plates 12 pivotally connected with each other by two hinges 14, so that the base 10 is foldable to save the storage space. The base 10 is provided with two mounting tubes 16.

Each of the two elastic bars 20 is mounted on a respective one of the two mounting tubes 16 of the base 10 and includes a first connecting tube 22 having a first end mounted on a respective one of the two mounting tubes 16 of the base 10, an elastic member 23 having a first end mounted on a second end of the first connecting tube 22, a second connecting tube 24 having a first end mounted on a second end of the elastic member 23, and a protective jacket 21 mounted on the elastic member 23.

The first end of the first connecting tube 22 is formed with an insert 222 inserted into the respective mounting tube 16 of the base 10. The elastic member 23 is preferably a helical spring. The protective jacket 21 is made of an elastic foam material and has a first end encompassing the second end of the first connecting tube 22 and a second end encompassing the first end of the second connecting tube 24.

The bracket 30 is mounted on the two elastic bars 20 and includes a substantially U-shaped support portion 32 having two distal ends each formed with a bent connecting section 31 adjustably inserted into a second end of the second connecting tube 24 of a respective one of the two elastic bars 20, and two spaced foot supports 33 each mounted on the support portion 32.

The connecting section 31 of the bracket 30 is formed with a through hole 312, the second end of the second connecting tube 24 of each of the two elastic bars 20 is formed with a plurality of adjusting holes 242, and the bracket 30 further includes two substantially V-shaped positioning members 34 each mounted in the respective connecting section 31 of the bracket 30 and each includes a positioning head 342 extended through the through hole 312 of the respective connecting section 31 of the bracket 30 and selectively inserted into either one of the adjusting holes 242 of the second connecting tube 24 of a respective one of the two elastic bars 20, so that the bracket 30 is secured on the two elastic bars 20.

The positioning head 342 of each of the two positioning members 34 is selectively inserted into either one of the adjusting holes 242 of the second connecting tube 24 of a respective one of the two elastic bars 20, so as to change the distance between the bracket 30 and the two elastic bars 20.

Each of the two positioning members 34 includes an elastic plate 344 having a first end mounted on the positioning head 342 and an urging plate 346 having a first end mounted on a second end of the elastic plate 344 and a second end urged on an inner wall of the respective connecting section 31 of the bracket 30.

The push bar 40 is mounted on the bracket 30 and includes a tubular connecting seat 42 mounted on the support portion 32 of the bracket 30 and located between the two spaced foot supports 33, an extension 46 having a first

end mounted on the connecting seat 42, and a substantially T-shaped handle 44 having a first end 444 adjustably mounted on a second end of the extension 46 and a second end provided with a grip 442.

The connecting seat 42 is formed with a screw bore 422, and the first end of the extension 46 is formed with an outer thread 460 screwed into the screw bore 422 of the connecting seat 42.

The first end 444 of the handle 44 is formed with a through hole 446, the second end of the extension 46 is formed with a plurality of adjusting holes 462, and the push bar 40 further includes a positioning pin 45 mounted in the first end 444 of the handle 44 and having a first end extended through the through hole 446 of the handle 44 and selectively inserted into either one of the adjusting holes 462 of the extension 46, so that the handle 44 is secured on the extension 46. The first end of the positioning pin 45 is selectively inserted into either one of the adjusting holes 462 of the extension 46, so as to change the distance between the handle 44 and the extension 46.

The positioning pin 45 has a second end formed with an enlarged abutment 452 rested on an inner wall of the first end 444 of the handle 44, and the push bar 40 further includes a substantially V-shaped elastic wire 47 mounted in the first end 444 of the handle 44 and having a first section formed with a connecting portion connected to the abutment 452 of the positioning pin 45 and a second section formed with an elastic urging portion 474 urged on the inner wall of the first end 444 of the handle 44.

Each of the two opposite first positioning devices 50 is mounted on the base 10 and includes a positioning plate 52 secured on the base 10 and formed with a mounting hole 522, a loop-shaped retaining member 54 mounted on the positioning plate 52 and having an end mounted in the mounting hole 522 of the positioning plate 52, and a fastening strap 56 mounted on the retaining member 54 and having two ends each provided with a snap bonding portion 562. Thus, the two ends of the fastening strap 56 are combined with each other to close the fastening strap 56.

Each of the two opposite second positioning devices 60 is mounted on the base 10 and includes a positioning plate 62 secured on the base 10 and formed with a mounting hole 622, a loop-shaped retaining member 64 mounted on the positioning plate 62 and having an end mounted in the mounting hole 622 of the positioning plate 62, and a fastening strap 66 mounted on the retaining member 64 and having two ends each provided with a snap bonding portion 662. Thus, the two ends of the fastening strap 66 are combined with each other to close the fastening strap 66.

In operation, referring to Figs. 1-6, a user seated on a wheelchair 70 is moved to the base 10 of the rehabilitation equipment. Then, the frame 72 of the wheelchair 70 is fastened by the two opposite first positioning devices 50 and the two opposite second positioning devices 60, so that the wheelchair 70 is positioned on the base 10. Then, the user's two feet are positioned by the two spaced foot supports 33 to prevent the user's two feet from detaching from the

bracket 30. Then, the user's two hands hold the grip 442 of the push bar 40 and the user's two feet exert a force on the bracket 30 as shown in Fig. 5 to press the two elastic bars 20 by aid of the user's two hands, so that the two elastic bars 20 are bent and moved to the position as shown in Fig. 6 so as to exercise the muscle, joint and skeleton of the user's wounded legs, thereby achieving the rehabilitation effect. In addition, the two elastic bars 20, the bracket 30 and the push bar 40 are detached from the base 10, and the two support plates 12 of the base 10 are pivoted to about the two hinges 14 to abut each other, so that the base 10 is folded when not in use so as to save the storage space. Further, the rehabilitation equipment is assembled and disassembled rapidly, easily and conveniently, thereby facilitating the user using the rehabilitation equipment.

Referring to Fig 7 with reference to Figs. 1 and 2, in accordance with another embodiment of the present invention, the push bar 40' includes a substantially U-shaped connecting seat 42' mounted on the support portion 32 of the bracket 30 and located between the two spaced foot supports 33, and a substantially T-shaped handle 44' mounted on the connecting seat 42'. The connecting seat 42' has a connecting plate 424', two spaced catch plates 426' formed on the connecting plate 424', and a mounting opening 428' formed between the two catch plates 426'. The handle 44' has a first end mounted on the connecting plate 424' of the connecting seat 42' and a second end provided with a grip 442'.

Although the invention has been explained in relation to its preferred embodiment(s) as mentioned above, it is to be understood that many other possible modifications and variations can be made without departing from the scope of the present invention. It is, therefore, contemplated that the appended claim or claims will cover such modifications and variations that fall within the true scope of the invention.